



The University of California  
Lawrence Berkeley National Laboratory  
Procurement Department  
One Cyclotron Road  
Berkeley, CA 94720

September 3<sup>rd</sup>, 2009

Subject: **Request for Proposal (RFP) No. CSWeb09**  
**Proposal Due Date: September 23<sup>rd</sup>, 2009**

The University of California, Lawrence Berkeley National Laboratory ("LBNL") requests a proposal for designing and implementing new websites for the National Energy Research Scientific Computing (NERSC) Center and the Energy Sciences Network (ESnet), in accordance with this RFP and the enclosed the Proposal Preparation Instructions, the Sample Subcontract, and other enclosures.

NERSC and ESnet are seeking a vendor with strong front-end design as well as back-end software development skills, to implement two public facing web sites for their users (currently at <http://www.nersc.gov> and <http://www.es.net>). The sites are targeted towards the following users: application scientists, software developers, network engineers, network and middleware researchers, research scientists, systems administrators, internal staff, program managers as well as the general public. Both sites have high availability requirements, but are relatively low-traffic sites. It is expected that a small percentage of the existing content will be imported to the new system.

In order to consolidate efforts, the goal is to develop two independent sites that use similar underlying software and hardware technologies. The scope of work includes site design and branding, information architecture services, software development and the final technology transfer to NERSC and ESnet. The software infrastructure will be expected to manage user and staff content as well as interface with existing applications and databases.

It is expected that staff from LBL would be actively involved in all phases of the development process and would provide close feedback to developers.

### **Overview of NERSC Site and Goals**

- The website will highlight the science and technology at NERSC including public outreach for the center and in-depth coverage of science stories based on work being done at NERSC.
- The website will be a resource for NERSC users, providing technical documentation on NERSC systems, current system status, and resource usage.
- The website will effectively communicate current events and information about NERSC including sponsored events, lectures and presentations.
- The website will be the primary conduit for information sharing between NERSC and its users, Department of Energy program managers, High Performance Computing community and the general public.

### **Overview of ESnet Site and Goals**

- The website will be the primary conduit for information sharing between ESnet and its users, ESnet and its Department of Energy program managers and ESnet and the general public.
- ESnet website will highlight the science and technology at ESnet, including public outreach and in-depth coverage of science stories based on the research enabled by the network.
- The website will be the primary conduit through which ESnet staff and the ESnet scientific user community access services and receive support.
- The website will serve as a central point of access to ESnet services and staff in real time.
- The website will be a resource for ESnet staff and its user community to attain real time resource utilization as well as more static information such as technical documentation, knowledge sharing, or archived data.
- The website will effectively communicate current events and information about the ESnet community - including sponsored workshops, lectures and presentations.

It is expected the work under the Subcontract will be performed over a period of 9 months. Offerors who believe the work can be completed sooner should note that in their response.

An original printed complete written proposal and an electronic (CD, DVD) copy must be received by the undersigned LBNL Procurement Representative by 3:00 PM Pacific Time on September 23rd, 2009. Alternatively, the Offeror may submit its proposal as an email attachment to [lerippe@lbl.gov](mailto:lerippe@lbl.gov) by this closing time and the printed and electronic copy must be received by September 28th, 2009. The proposal shall be valid for a period of 90 days from the proposal due date. Facsimile (fax) proposals are not acceptable. Please limit proposals to 30 pages.

The LBNL Procurement Representative for this solicitation is Lynn Rippe and may be reached by telephone at (254) 939-5514, by fax at (254) 939-5517 or by e-mail at [lerippe@lbl.gov](mailto:lerippe@lbl.gov).

This solicitation is governed by procurement policies and procedures established under the Prime Contract between the University and the U.S. Government, represented by the Department of Energy ("DOE"), for management and operation of LBNL. Any award resulting from this solicitation will be a subcontract under the Prime Contract.

Acceptance of late proposals will be at LBNL's sole discretion. LBNL reserves the right to reject any and all proposals, to waive any minor irregularities in any proposal, or to cancel this RFP at any time prior to award without cost to LBNL. This RFP does not include provisions for the direct reimbursement of proposal preparation costs.

### **NAICS CODE AND SMALL BUSINESS SIZE STANDARD**

The North American Industry Classification System (NAICS) Code for this acquisition is 541511 Custom Computer Programming Services. The corresponding small business size

standard for this acquisition is annual receipts of \$25 Million or less. Annual receipts are to be based on the average annual gross revenue for the past three fiscal years.

The Offeror shall complete the *Small Business Program Representations* clause in the attached Representations and Certifications form based on this small business size standard. Refer to Subpart 19.1 - Size Standards, of the Federal Acquisition Regulation (FAR) for information on calculating the number of employees.

#### **NOTICE OF SMALL BUSINESS SET-ASIDE**

Proposals are solicited only from small business concerns, as that term is defined in FAR Subpart 2.1. Proposals received from concerns that are not small business concerns will not be considered and any award(s) resulting from this solicitation will be made to a small business concern.

#### **SUBMITTAL OF PROPOSALS**

The Offeror shall send the proposal to the following address:

Lawrence Berkeley National Laboratory  
Attention: Lynn Rippe  
Mail Stop 943-256  
**RFP CSWeb09**  
One Cyclotron Road  
Berkeley, CA 94720

#### **BASIS FOR SELECTION – BEST VALUE**

NERSC and ESnet intend to select the responsive and responsible Offeror whose proposal satisfies the minimum requirements and contains the combination of performance features, supplier attributes, and probable cost offering the best overall value. NERSC and ESnet's selection may be made on the basis of the initial proposals or NERSC and ESnet may elect to negotiate with Offerors selected as finalists.

A responsive Offeror is one whose offer satisfies the requirements of this RFP, including the technical requirements of the proposed subcontract. A responsible Offeror is one that is considered capable of performing and is otherwise eligible and qualified to perform the proposed subcontract.

NERSC and ESnet will determine the best overall value by comparing differences in performance features and supplier attributes offered with differences in probable cost and related factors, striking the most advantageous balance between expected performance and the overall probable cost to NERSC and ESnet.

NERSC and ESnet reserve the right to make multiple awards as a result of this solicitation, if it is in the best interest of NERSC and ESnet.

## **EVALUATION OF PROPOSALS**

NERSC and ESnet will evaluate each Offeror's proposal based on the information provided by the Offeror, NERSC and ESnet's own experience, and/or information from the Offeror's customers. Offerors must, therefore, be persuasive in describing their performance features and supplier attributes and their value in enhancing the likelihood of successful performance and achievement of NERSC and ESnet's objectives.

The evaluation of proposed performance features and supplier attributes will focus on the strengths and weaknesses of the proposal within the framework of capability, affordability, feasibility, and applicability.

### Capability

- What are the Offeror's performance features and how well will they satisfy NERSC and ESnet's requirements?
- What are the Offeror's supplier attributes (personnel, financial, etc.) and how well will they enable the Offeror to satisfy NERSC and ESnet's requirements
- What is the Offeror's past experience on similar contracts?
- If work will be subcontracted, to what extent is the assignment of work scope appropriate, and to what extent is the prospective lower-tier subcontractor qualified to do that work?

### Affordability

- What is the probable cost to NERSC and ESnet?
- How realistic is the proposed price in relation to the approach the Offeror proposes to employ?
- How does the proposed pricing compare to NERSC and ESnet's estimate and to other proposed prices, and are the trade-offs worth the difference?

### Feasibility

- How well will the proposed approach contribute to successful and timely completion of the work?
- What is the likelihood of success of the proposed solution in the NERSC and ESnet environment?
- What is the probability that the solution proposed will be provided within the time frame required?
- How well will the proposed solution be integrated, tested and supported at NERSC and ESnet?

### Applicability

- How well does the proposed approach satisfy NERSC and ESnet's goals?
- How will the proposed approach succeed in meeting NERSC and ESnet's requirements and desired features?

**ENCLOSURES**

The Offeror shall complete the following enclosure and submit it with the proposal:

Representations & Certifications

The following enclosures are provided and need not be returned with the proposal:

Proposal Preparation Instructions

Sample Subcontract and its Incorporated Documents

If there are any questions, please contact me by phone at (254) 939-5514, by FAX at (254) 939-5517, or by email at [lerippe@lbl.gov](mailto:lerippe@lbl.gov).

Sincerely,



Lynn E. Rippe

LBNL Procurement Representative

## **PROPOSAL PREPARATION INSTRUCTIONS**

### **PROPOSAL CONTENTS**

#### **General**

The proposal should consist of a technical/management proposal and a price proposal. The proposal should be submitted with a cover letter identifying the Offeror's name and address, solicitation number and title, the name(s), title(s), and telephone number(s) of the individuals in Offeror's organization who have commitment authority on behalf of the Offeror and will be responsible for contractual negotiations and administration of any resultant Subcontract.

The Offeror may submit an alternate proposal, if considered more advantageous to the than the requested proposal. An explanation of the perceived benefits to the University should be included.

#### **Technical/Management Proposal**

The technical/management proposal should contain a comprehensive discussion of Offeror's approach for successful performance of the work, plus any other element which may be necessary to fulfill the requirements of the Scope of Work, including a completion schedule. NERSC and ESnet require completion by 9 months after subcontract start date. An alternate completion date may be proposed which may be subject to negotiation prior to award.

#### **Minimum Requirements**

The Offeror's technical/management proposal must demonstrate its ability to meet or exceed the following minimum requirements:

- All developed software and software dependencies must be based on Unix-based open-source tools
- Website must support all major browsers including Firefox, IE and Safari
- Must support the ability to create and publish content and include management functionality for multiple users, including access controls and site management roles
- Must allow non-technical staff to publish content (news stories, articles, technical documentation, papers, presentations and special event pages with registration) through a simple, polished web interface, without aid from technical staff
- Must be able to integrate with existing databases and backend applications including
  - NERSC resource usage database (interface with MySQL)
  - ESnet Network Monitoring and Virtual Circuit reservation applications (interface with web service APIs)
  - ESnet trouble ticket system (consume information from/post to Oracle based Remedy ticket system. Full integration is not required at this stage)
- Website must support user authentication based on LDAP (for NERSC site) and a Federated identity framework such as OpenID, Shibboleth, OAuth (for ESnet site)
- Software infrastructure must be designed to support redundancy so that there is no single point of failure at the hardware layer
- Must separate content from design
- Must be able to develop a strong, consistent brand identity and enforce a consistent look and feel for each site

- Must be able to support migration of current information content to new architecture
- Must include integrated search functionality
- Delivered software must be easily extensible and maintainable for LBL staff so that LBL can take over management and maintenance of the site after delivery with minimal vendor support
- Delivered system must be open and flexible, so that LBL can have the option of deploying other websites using this infrastructure

The Offeror should include in its proposal:

- A paragraph on each minimum requirement listed above describing how the proposed solution will meet that requirement

### **Performance Features and Supplier Attributes**

The proposal should identify, describe, and discuss the performance features and supplier attributes the Offeror considers important to successful performance of the proposed subcontract. NERSC and ESnet have identified the performance features and supplier attributes listed below, which are the qualitative criteria the University will use for the subjective evaluation of proposals. They are not listed in any order of importance and no feature or attribute is more important than any other. The Offeror should discuss them in the proposal and may identify other performance features and supplier attributes it believes may be of value to NERSC and ESnet. If NERSC and ESnet agree, they will be considered in the evaluation process. In all cases, NERSC and ESnet will assess the value of each proposal as submitted.

### **Performance Features**

#### **General Features**

- Software built using the LAMP model:
  - FreeBSD or Linux
  - Apache
  - Backend Database (MySQL, PostgreSQL or other similar technology)
  - Content framework development language (PHP or Python preferred, other frameworks may be considered as well)
- Support for sub-domains or microsites for special projects
- Mechanism to import content from the existing sites
- Strong information architecture services to help NERSC and ESnet move existing content into improved navigation hierarchy
- Extensibility - ability to integrate with other web services or database systems (Oracle, PostgreSQL) in the future. Integration with these systems is not in the current scope of work for this project, but it is desirable to have a mechanism for extending the software framework so that it can be included by the client in the future
- Mechanism to compile web statistics and perform analytics
- Customer support services upon completion of the project

The Offeror should include in its proposal:

- A description of the proposed software system architecture including underlying dependencies

- A description of the proposed content management software or a description of the process to determine the appropriate content management software based on customer needs
- A proposal for how to incorporate other sub-domains or microsites under the overall umbrella site and brand identity
- A well-defined process for importing existing content into the new system.
- Description of the development and discovery process that will be used to create an improved information architecture and user interface
- A brief description of the extensibility features of the proposed system, including links to more detailed documentation and programming interfaces.
- Web analytics features
- Description of customer support model during and after the project

### Systems Features

- Maintainability of web software architecture
  - A well-defined upgrade and patching mechanism that avoids custom fixes
  - Well-documented code that follows strict coding standards
  - Similar software architectures for NERSC and ESnet sites to facilitate code reuse and common software maintenance paths
  - Use of standard, proven and robust CMS code modules with existing community support and the use of custom solutions only where necessary
- Integration into NERSC and ESnet back-end infrastructure
  - Ability to access to a database that resides on separate node
  - Support for server level separation of read/write and read only access to content and support for secure authenticated access (https)
  - Ability to back up and recover the systems and the content separately
  - Ability to export content
  - Ability for proposed system software to be compatible with hardware redundancy (either through load balancing, redundancy and/or fail over including remote servers)
- Secure software environment
  - Commitment to delivering a system free from known bugs and security vulnerabilities
  - Well-defined patching mechanism for bugs and vulnerabilities
  - Features within the system to enhance the overall security of the software

The Offeror should include in its proposal:

- A description of the software maintenance practices for running the system including links to reference documentation
- Demonstrated use of software engineering best practices for software development, systems administration, and integration of add-on modules
- Description for how the two sites will be developed concurrently to maximize design and code re-use
- A brief description of how the software system will be integrated into the site back-end infrastructure
- Security track record of the proposed software system, including the number of critical vulnerabilities in the past year, and average time for patch release. Also include any security enhancements within the software and the system design



### CMS and Software Features

- Support for content management features including
  - Well-defined page layouts and the ability to simply generate new templates
  - Ability to preview content before publishing
  - Ability for multiple users to be editing the same page, or a locking system which coordinates access and support for version control
  - Ability to allow users to share documents with other users of their choice
  - Customizable user profiles and personal user pages
  - User feedback interaction through commenting services and forums
  - Calendaring and conference/event creation tools
  - Tagging and sharing content to other social platforms (e.g.: SMS, Twitter, facebook) and RSS feeds for information content
  - Quality of service tools for generated content such as spell-checking, link-checking and code validation
  - Support for customizable views for users such as dashboards or widgets
- Support for interactive front-end interfaces
  - Support for AJAX and avoid use of Flash on any critical components of the site
  - Use of Google maps or similar interfaces where geographical data is displayed
- Capable of rendering a basic html view for non-JavaScript browsers or mobile devices
- Use of web services APIs (e.g. REST) and URLs for access where possible
- Display current usage statistics and operational data for
  - Supercomputer resource and network status, downtimes, maintenance windows
  - Live resource usage statistics – network data and tickets (ESnet), job and storage (NERSC)
- Support the ability for NERSC/ESnet staff to communicate with their users in real-time
- Pluggable authentication modules that can support
  - LDAP and federated identity authentication
  - Single sign-on across a domain

The Offeror should include in its proposal:

- Description of which of the above content management features are supported and how
- Description of social, interactivity and user customization tools
- Description of how the proposed system provides authentication, authorization and Single-Sign On support including federated identity capabilities

### Supplier Attributes

- Demonstrated capability to develop the proposed solution and integrate it into the customer environment
- Successful performance on contracts in past 3 years similar in type and complexity as the proposed Subcontract
- Ability to interact and work well with technical clients
- Ability to provide effective training services and technology transfer to client
- Responsiveness to customer feedback during development cycle
- Prior experience with short iterative development cycles, flexible requirements, close customer feedback, and the ability to rapidly respond to feedback including weekly customer meetings and well-defined milestones to chart progress.
- Strong branding and user interface work

- Capability to provide support and perform additional development after the completion of the project
- Familiarity and experience with technologies mentioned in this proposal
- Management and corporate capability to develop the solution within project cost and schedule parameters

The Offeror should include in its proposal

- List of sites designed and deployed by vendor
- Examples of prior deployments with similar back-end requirements as NERSC and ESnet
- Description of technology transfer and customer training process
- A description of project management approach
- Examples of prior branding and design work and process for developing brand/site design in conjunction with customer
- Description of the customer support model for bug fixes and additional work to be performed after completion of the project
- References from past customers for projects with similar scope. These may include public and private contracts. Include technical and business contact points by name, title, address, telephone number and, if available, e-mail address
- Additional information to support above attributes

### **Price Proposal**

The price proposal must include a total firm fixed price for the work. The proposal should also include invoicing requirements and payment terms. The Offeror may provide additional pricing options, alternative pricing structures and/or proposals for synergistic technologies that would add value to NERSC and ESnet.

## **ADDITIONAL INSTRUCTIONS**

### **Offerors' Questions**

NERSC and ESnet will respond to questions submitted in writing to the Procurement Representative on or before 5 days before the proposal due date. Questions submitted after this date may not be answered prior to the proposal due date. All questions shall be submitted to [webrrfp@nersc.gov](mailto:webrrfp@nersc.gov). Answers to questions that are generally germane to the interpretation of the University's requirements will be posted to the website at:

<http://www.nersc.gov/projects/procurements/CSWeb09>

### **Acceptance of Terms and Conditions**

Submission of a proposal shall indicate the Offeror's willingness to accept the terms and conditions of the Sample Subcontract and its attachments unless specific exceptions are taken. These terms and conditions have been approved by the DOE. Changing them may be time consuming. Failure to accept the terms and conditions may result in significant, unacceptable delays in award of a Subcontract which could cause NERSC and ESnet to reject Offeror's proposal.

### **Proprietary Information**

NERSC and ESnet will treat any commercial or financial information in the proposal as proprietary. NERSC and ESnet prefer not to receive proprietary technical information. If the proposal includes any proprietary technical information, it must be marked “Proprietary” or its equivalent. NERSC and ESnet will use its best efforts to (1) maintain such proprietary information in confidence, giving it the same degree of care, but no less than a reasonable degree of care, as NERSC and ESnet exercises with its own proprietary information to prevent its unauthorized disclosure; and (2) only disclose such proprietary information to its employees, agents, consultants, subcontractors or Government personnel who have a need to know related to this RFP and are bound by an obligation of confidentiality.

If the Offeror intends to use a product or process in which there is a proprietary or background patent position, the proposal should indicate and list patent applications and/or patents granted (including dates, numbers, and descriptions), and whether the Government has rights to the patents.

(End of Proposal Preparation Instructions)